

piece on three strips instead of on a continuous surface in order

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to facilitate assembling. When this is necessary, it is advisable

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to make the strips in such a way that they can be readily

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replaced when worn.
The supporting points should be so located that they can

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be easily reached for cleaning, in order that locations will not be affected by an accumulation of chips or dirt at important

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points. Adjustable points should be so arranged that dirt and

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chips will not clog the screws and thus make them difficult to
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operate. This point in design should receive careful attention

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when fixtures are designed for use on the vertical turret lathe

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or vertical boring mill On machines of the horizontal type,

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less trouble is likely to be experienced in this respect, because
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the chips do not tend to fall on the screws. In either case,
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however, it is always well to provide against any trouble from
this source. |

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It is frequently desirable to insert hardened steel buttons of uniform height in the jaw screw holes in order to raise a portion

I of the work above the tops of the standard jaws, so that the » work can be faced or under-cut. These buttons form an excel-

I lent three-point support for the work in addition to performing the function already mentioned. Short parallels cut from cold-rolled steel may be used on a vertical turret lathe and are somewhat cheaper than the buttons, but they are open to the ? objection of becoming easily displaced and lost.

When it is necessary to arrange points to act as a vee on long cylindrical surfaces, it is good practice to make them so that they can be adjusted to take up wear. This can easily be done by means of headless set-screws with check-nuts to lock them

I securely in any position; and it is a better construction to place one check-nut on the outside and another one inside,

{ than to have both nuts on one side of the fixture wall. The construction of the fixture will not always permit of using this method, but, when it will, very satisfactory results are obtained.

When the three-point support is applied to the fixture itself, the clamp screws which hold the fixture in place on the table should be arranged at the points where the supports are placed,